AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Clean Water Act as amended, (33 U.S.C. §§1251 et seq.; the "CWA"), and the Massachusetts Clean Waters Act, as amended, (M.G.L. Chap. 21, §§26-53),

Massachusetts Department of Correction
Norfolk-Walpole Correctional Institution (MCI)
Wastewater Treatment Plant

is authorized to discharge from the facility located at

10 Old Campbell Road
Norfolk, Massachusetts 02056

to receiving water named

Stop River (Charles River Watershed)

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective sixty days from the date of signature.

This permit and the authorization to discharge expire at midnight, four (4) years from the effective date.

This permit supersedes the permit issued on September 29, 1989.

This permit consists of 14 pages in Part I including effluent limitations, monitoring requirements; Attachment A, Freshwater Chronic Toxicity Test Protocol and Procedures; Attachment B, Sludge Guidance; and 35 pages in Part II including General Conditions and Definitions.

Signed this 29th day of September, 2000

/SIGNATURE ON FILE/

Linda M. Murphy, Director
Office of Ecosystem Protection
Environmental Protection Agency
Boston, MA

Director
Division of Watershed Management
Department of Environmental Protection
Commonwealth of Massachusetts
Boston, MA

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge treated effluent from outfall serial number 001. Such discharge shall be limited and monitored by the permittee as specified below.

Effluent Characteristic	Units	Discharge Limitation			Monitoring Requirement	
		Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type
Flow	MGD	.484[2]	----	Report	Continuous[1]	Recorder
BOD_5 (November 1 to April 30)	mg/l lbs/day	15 61	25 101	Report Report	2/Week [3] 2/Week [3]	24-Hour Composite[4] 24-Hour Composite[4]
BOD_5 (May 1 to October 31)	mg/l lbs/day	7 28	Report Report	12 48	2/Week [3] 2/Week [3]	24-Hour Composite[4] 24-Hour Composite[4]
TSS (November 1 to April 30)	mg/l lbs/day	15 61	25 101	Report Report	2/Week [3] 2/Week [3]	24-Hour Composite[4] 24-Hour Composite[4]
TSS (May 1 to October 31)	mg/l lbs/day	7 28	Report Report	12 48	2/Week [3] 2/Week [3]	24-Hour Composite[4] 24-Hour Composite[4]
pH		(See Condition I.A.1.b. on Page 5)			1/Day	Grab
Dissolved Oxygen	mg/l	6 mg/l minimum			1/Day	Grab
Fecal Coliform Bacteria[5] (March 1 - November 30)	cfu's /100 ml	200	----	400	2/Week	Grab
Total Residual Chlorine[6] (March 1 - November 31)	ug/l	13	----	22	2/Day	Grab

Effluent Characteristic	Units	Discharge Limitation	Monitoring Requirement

		Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type
Total Ammonia Nitrogen, as N	mg/l	12	24	Report	1/Week	24-Hour Composite[4]
(November 1- April 30)	lbs/day	48	97	Report	1/Week	24-Hour Composite[4]
Total Ammonia Nitrogen, as N	mg/l	5	----	7.5	2/Week	24-Hour Composite[4]
(May 1 - May 31)	lbs/day	20	----	30	2/Week	24-Hour Composite[4]
Total Ammonia Nitrogen, as N	mg/l	1	----	2	2/Week	24-Hour Composite[4]
(June 1 - October 31)	lbs/day	4	----	8	2/Week	24-Hour Composite[4]
Copper, Total[7]	ug/l	5	----	6	1/Month	24-Hour Composite[4]
Phosphorous, Total (April 1 - October 31)	mg/l	0.2	----	----	2/Week	24-Hour Composite[4]
Phosphorus, Total (November 1 - March 31)	mg/l	Report	----	----	1/Month	24-Hour Composite[4]
Aluminum, Total	mg/l	0.103	----		1/Month	24-Hour Composite[4]
LC_{50}[8]	%	----	----	100	4/year[9]	24-Hour Composite[4]
Chronic NOEC[10, 11]	%	----	----	>84	4/year[9]	24-Hour Composite[4]

Footnotes:

1. For flow, report maximum and minimum daily rates and total flow for each operating date.

2. The flow limit is based on an annual average and shall be reported each month. The annual average shall be calculated using the monthly average flow from the reporting month and the monthly average flow from the preceding eleven months.

3. Sampling required for influent and effluent.

4. A 24-hour composite sample will consist of at least twenty four (24) grab samples taken during a twenty-four hour period.

5. Fecal coliform monitoring will be from March 1 through November 30. This is a State certification requirement. The monthly average limit is expressed as a geometric mean.

6. The minimum detection level (ML) for total residual chlorine is defined as 50 ug/l. This value is the minimum detection level for chlorine using EPA approved methods found in Standard Methods for the Examination of Water and Wastes, 20th Edition, Method 4500 CL-E and G, or USEPA Manual of Methods of Analysis of Water and Wastes, Method 330.5. One of these methods must be used to determine total residual chlorine. For effluent limitations less than 50 ug/l, compliance/non-compliance will be determined based on the ML. Sample results of 50 ug/l or less shall be reported as zero on the discharge monitoring report.

7. The minimum detection level (ML) for copper is defined as 5.0 ug/l. This value is the minimum detection level for copper using the Furnace Atomic Absorption analytical method. For effluent limitations less than 5 ug/l, compliance/non-compliance will be determined based on the ML. Sample results of 5 ug/l or less shall be reported as zero on the discharge monitoring report.

8. The LC_{50} is the concentration of effluent which causes mortality to 50% of the test organisms. Therefore, a 100% limit means that a sample of 100% effluent (no dilution) shall cause no more than a 50% mortality rate.

9. The permittee shall conduct chronic (and modified acute) toxicity tests four times per year. The chronic test may be used to calculate the acute LC_{50} at the 48 hour exposure interval. The permittee shall test the daphnid, Ceriodaphnia dubia, and fathead minnow, Pimephales promelas . Toxicity test samples shall be collected on the second week of January, April, July, and October. Results are to be submitted by the 30th day of the month after the sample i.e. February, May, August, and November. See Permit Attachment A, Toxicity Test Procedure and Protocol.

10. The "84% or greater" limit is defined as a sample which is composed of 84% (or greater)

effluent, the remainder being dilution water. This is a maximum daily limit derived as a percentage of the inverse of the dilution factor of 1.19.

11. No Observed Chronic Effects Concentration (C-NOEC) is the highest concentration of toxicant or effluent to which organisms are exposed in a life-cycle test, which causes no adverse effect on growth, survival and reproduction.

Part I. A. (Continued)

a. The discharge shall not cause a violation of the water quality standards of the receiving waters.

b. The pH of the effluent shall not be less than 6.5 nor greater than 8.3 at any time, unless these values are exceeded due to natural causes or as a result of the approved treatment processes.

c. The discharge shall not cause objectionable discoloration of the receiving waters.

d. The effluent shall contain neither a visible oil sheen or foam, nor floating solids at any time.

e. The permittee's treatment facility shall maintain a minimum of 85 percent removal of both total suspended solids and biochemical oxygen demand. The percent removal shall be based on monthly average values.

f. When the effluent discharged for a period of 90 consecutive days exceeds 80 percent of the designed flow, the permittee shall submit to the permitting authorities a projection of loadings up to the time when the design capacity of the treatment facility will be reached, and a program for maintaining satisfactory treatment levels consistent with approved water quality management plans.

g. The permittee shall minimize the use of chlorine while maintaining adequate bacterial control.

h. Samples taken in compliance with the monitoring requirements specified in the permit shall be taken at a representative point prior to mixing with other streams.

2. All POTWs must provide adequate notice to the Director of the following:

a. Any new introduction of pollutants into that POTW from an indirect discharger in a primary industry category discharging process water; and

b. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.

c. For purposes of this paragraph, adequate notice shall include information on:

(1) the quantity and quality of effluent introduced into the POTW; and

(2) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

3. Prohibitions Concerning Interference and Pass-Through:

a. Pollutants introduced into POTW's by a non-domestic source (user) shall not pass-through the POTW or interfere with the operation or performance of the works.

b. If, within 30 days after notice of an interference or pass-through violation has been sent by EPA to the POTW, and to persons or groups who have requested such notice, the POTW fails to commence appropriate enforcement action to correct the violation, EPA may take appropriate enforcement action.

4. Toxics Control

a. The permittee shall not discharge any pollutant or combination of pollutants in toxic amounts.

b. Any toxic components of the effluent shall not result in any demonstrable harm to aquatic life or violate any state or federal water quality standard which has been or may be promulgated. Upon promulgation of any such standard, this permit may be revised or amended in accordance with such standards.

5. Numerical Effluent Limitations for Toxicants

EPA or DEP may use the results of the toxicity tests and chemical analyses conducted pursuant to this permit, as well as national water quality criteria developed pursuant to Section 304(a)(1) of the Clean Water Act (CWA), state water quality criteria, and any other appropriate information or data, to develop numerical effluent limitations for any pollutants, including but not limited to those pollutants listed in Appendix D of 40 CFR Part 122.

B. SCHEDULE OF COMPLIANCE

Since the copper and aluminum limits are new limits, this permit allows a compliance schedule of one year from the effective date of the permit for the permittee to come into compliance with the new limits. Therefore, for the first year, the permittee will report the copper and aluminum concentrations while working towards meeting the limits.

C. UNAUTHORIZED DISCHARGES

The permittee is authorized to discharge only in accordance with the terms and conditions of this permit and only from outfalls listed in Part I A.1. of this permit. Discharges of wastewater from any other point sources, including sanitary sewer overflows (SSOs) are not authorized by this permit and shall be reported in accordance with Section D.1.e. (1) of the General Requirements of this permit (Twenty-four hour reporting).

D. OPERATION AND MAINTENANCE OF THE SEWER SYSTEM

Operation and maintenance of the sewer system shall be in compliance with the General Requirements of Part II and the following terms and conditions:

1. Maintenance Staff

The permittee shall provide an adequate staff to carry out the operation, maintenance, repair, and testing functions required to ensure compliance with the terms and conditions of this permit.

2. Infiltration/Inflow

The permittee shall eliminate excessive infiltration/inflow to the sewer system. A summary report of all actions taken to minimize infiltration/inflow during the previous calendar year shall be submitted to EPA and the DEP by February 28th of each year. This report shall also include a graph of flows to the treatment plant during the year and an analysis of I/I trends (i.e is I/I being reduced). If there have been any unauthorized discharges from the collection system during the previous calendar year which were caused by inadequate sewer system capacity, the permittee shall also include in this report an evaluation of actions necessary to restore adequate capacity.

3. Alternate Power Source

In order to maintain compliance with the terms and conditions of this permit, the permittee shall continue to provide an alternative power source with which to sufficiently operate its treatment works (as defined at 40 CFR §122.2).

4. Chlorination System Report

Within 3 months of the effective date of the permit, the permittee will submit a report documenting the effectiveness of the chlorination and dechlorination systems. The report will specifically address how flow variability and chlorine demand variability affect compliance with the TRC and fecal coliform limits at all times. Sampling data shall be provided to support conclusions on how hourly and daily flow and chlorine demand variability affects permit compliance. The report will include a description of the chlorination and dechlorination systems and the methods for dosage control. The report

will identify all changes necessary to ensure compliance with the TRC and fecal coliform limits at all times, including equipment modifications and upgrades, operational procedures (including calibration procedures and alarm/response procedures), and sampling protocols. The report will include a schedule for implementing all of the necessary changes. An annual report shall be submitted on November 30 of each year summarizing all exceedances of the TRC and fecal coliform effluent limits during the previous 12 months, the estimated or measured fecal coliform and chlorine discharge levels during the exceedance, and measures taken to fix the problem and to prevent future occurrences.

E. SLUDGE CONDITIONS

1. The permittee shall comply with all existing federal and state laws and regulations that apply to sewage sludge use and disposal practices and with the CWA Section 405(d) technical standards.

2. The permittee shall comply with the more stringent of either the state or federal (40 CFR part 503), requirements.

3. The requirements and technical standards of 40 CFR part 503 apply to facilities which perform one or more of the following use or disposal practices.

   a. Land application - the use of sewage sludge to condition or fertilize the soil

   b. Surface disposal - the placement of sewage sludge in a sludge only landfill

   c. Sewage sludge incineration in a sludge only incinerator

4. The 40 CFR part 503 conditions do not apply to facilities which place sludge within a municipal solid waste landfill. These conditions also do not apply to facilities which do not dispose of sewage sludge during the life of the permit but rather treat the sludge (lagoons- reed beds), or are otherwise excluded under 40 CFR 503.6.

5. The permittee shall use and comply with the attached compliance guidance document to determine appropriate conditions. See Attachment B. Appropriate conditions contain the following elements.

   - General requirements
   - Pollutant limitations
   - Operational Standards (pathogen reduction requirements and vector attraction reduction requirements)
   - Management practices
   - Record keeping
   - Monitoring
   - Reporting

Depending upon the quality of material produced by a facility, all conditions may not apply to the facility.

6. The permittee shall monitor the pollutant concentrations, pathogen reduction and vector attraction reduction at the following frequency. This frequency is based upon the volume of sewage sludge generated at the facility in dry metric tons per year

less than 290	1/ year
290 to less than1500	1 /quarter
1500 to less than 15000	6 /year
15000 +	1 /month

7. The permittee shall sample the sewage sludge using the procedures detailed in 40 CFR 503.8.

8. The permittee shall submit an annual report containing the information specified in the guidance. Reports are due annually by February 19. Reports shall be submitted to the address contained in the reporting section of the permit.

F. BEST MANAGEMENT PRACTICES PLAN

The permittee shall develop and implement a Best Management Practices (BMP) plan to achieve the stated objectives and which conforms to the following requirements:

1. General Conditions

a. General Objectives

The objectives of the BMP plan are to minimize the potential for violations of terms of the permit; to protect the designated water uses of the surrounding surface water bodies, and to mitigate pollution from material storage areas, in-plant transfer, process and material handling areas, loading and unloading operations, plant site runoff, accidental spills, and industrial work areas. Both wet-weather and dry-weather conditions are to be considered in the BMP plan.

b. Implementation

A BMP plan shall be developed within 90 days of the effective date of the permit and available to EPA and the State upon request. The permittee shall have on file a statement that certifies that the BMP plan has been developed and it shall be implemented in accordance with its schedule and requirements. This certification shall be signed in accordance with NPDES General Requirements, Part II.D.2. Implementation of all aspects of the plan shall commence no later that 12 months after the effective date of the permit. (see part I.E.3 Implementation Schedule below) unless a later date is approved in writing by the Regional Administrator and the Director.

c. General Requirements

The BMP plan shall:

(1) Be documented in narrative form, and shall include any necessary plot plans, drawings, or maps.

(2) Establish specific objectives for the control of toxic and hazardous pollutants.

(a) Each facility component or system will be examined for its potential for causing a release of significant amounts of toxic and hazardous pollutants (e.g. 2-ethyhexyl phthalate) to surface waters due to equipment failure, improper operation, natural phenomena such as precipitation, etc.

Locations at which bypasses of the treatment systems may occur as well as projected conditions under which a bypass may be necessary will be submitted.

(b) Where experience indicates a reasonable potential for equipment failure (e.g. a leakage), natural phenomena (e.g., precipitation), or other circumstances to result in significant amounts of toxic or hazardous pollutants reaching surface waters, the plan shall include a prediction of the direction, rate of flow and total quantity of toxic or hazardous pollutants which could be discharged, from the facility as a result of each condition or circumstances.

(3) Establish specific best management practice to meet the objectives identified under Part I.B.1.c.(2) of this section, addressing each component of system capable of causing a release of significant amounts of toxic or hazardous pollutants (e.g. 2-ethyhexyl phthalate) to surface waters. Examples are: specific practices to minimize and/or control the use of bypasses shall be identified, equipment used in industrial work areas such as furniture stripping, metal plating etc.

(4) Include any special conditions established in accordance with Part I.E.2 Specific Conditions , below.

(5) Be reviewed by plant engineering staff and the superintendent.

(d) Specific Requirements

The plan shall be consistent with the general guidance contained in the publication entitled “NPDES Best Management Practices Guidance Documents” and shall consider the following base line BMP’s as a minimum:

(1) BMP Committee
(2) Report BMP Incidents
(3) Risk Identification and Assessment

(4) Employee Training
(5) Inspections and Records
(6) Preventive Maintenance
(7) Good Housekeeping
(8) Material Compatibility
(9) Security

e. Hazardous Water Management

The permittee shall assure the proper management of solid and hazardous waste in accordance with regulations promulgated under the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA) of 1978 (40 U.S.C. 6901 et seq), or amendments thereto. Management practices required under RCRA regulation shall be referenced in the BMP plan.

f. Documentation

The permittee shall maintain a description of the BMP plan at the facility and shall make the plan available to the Regional Administrator and the Director upon request.

g. BMP Plan Modification

The permittee shall notify in writing to the Regional Administrator and the Director of an amended BMP plan within 30 days of a change in the physical facility or a change in the operational procedures of the facility which materially increases the potential for the ancillary activities to result in a discharge of significant amounts of hazardous or toxic pollutants.

i. Modification for Ineffectiveness

If the BMP proves to be ineffective in achieving the general objective of preventing the release of significant amounts of toxic or hazardous pollutants to surface waters and the specific objectives and requirements under Part I.E.2. herein, the permit and/or the BMP plan shall be subject to modification (40 CFR §122.64 and §122.63) to incorporate revised BMP requirements.

2. <u>Specific Conditions</u>

a. All surface runoff from process or work areas at the facility shall be treated or contained and diverted to the final treatment system. Process or work areas are defined for the permit as all those areas subject to spills and leaks of raw materials or products containing toxic or hazardous substances, i.e. yard areas, industrial work areas etc.

1. The BMP plan shall specifically address the adequacy of containment of leaks and spills in the storage areas, loading areas, and industrial work areas. Adequate containment must

exist at these locations so as to prevent untreated discharges from reaching any surface water.

2. A schedule for routinely monitoring and cleaning industrial work areas shall be specified in the BMP plan. In addition, the BMP plan shall establish procedures for insuring compliance with part I.E.1 General Conditions and part I.E.2. Specific Conditions during such cleaning or maintenance periods.

3. The disposal procedures for any rinse waters containing detergents, dispersants, emulsifiers, latex gloves, 2-ethyhexyl phthalate etc. will be addressed in the BMP plan.

3. Implementation Schedule

a. Construction of any facilities shall begin within 9 months of the effective date of the permit.

b. All construction required by the BMP plan and these Specific Conditions shall be completed and the facilities placed in operation within 24 months of the effective date of the permit or at a later date as may be approved by the Regional Administrator and the Director.

c. All aspects of the BMP plan which do not require construction shall be implemented on the submittal date of the BMP plan (90 days after the effective date of the permits). All other requirements and conditions shall be implemented upon completion of the respective construction, or within 24 months of the effective date of the permit or at a later date as may be approved by the Regional Administrator and the Director.

d. The EPA and the State may comment on the BMP plan no later than 9 months from the effective date of the permit. If EPA or the State submit comments, the permittee will be given a written explanation of the exact nature of any problems and a reasonable period of time (usually not to exceed 90 days) to resubmit a modified BMP plan addressing those concerns.

4. BMP Reporting Requirements

a. The permittee shall review and update the BMP plan by November 30 of each year, and it shall be available for EPA and MA DEP to review upon request. This report shall address the adequacy of the BMP plan in achieving the general objective of preventing the release of significant amounts of toxic or hazardous pollutants to surface waters, sludge, and the specific objectives and requirements under Parts I.E.(1)(c), and (d). In addition it shall also include :

(1) A list of fuels, additives and chemicals stored in bulk at the facility.

(2) A list of any changes in activities at the facility such as but not limited to changes

in a product line, storm water collection system, treatment and discharge system, and significant physical facility changes.

G. MONITORING AND REPORTING

1. Reporting

Monitoring results obtained during the previous month shall be summarized for each month and reported on separate Discharge Monitoring Report Form(s) postmarked no later than the 15th day of the month following the effective date of the permit.

Signed and dated originals of these, and all other reports required herein, shall be submitted to the Director and the State at the following addresses:

Environmental Protection Agency
Water Technical Unit (SEW)
P.O. Box 8127
Boston, Massachusetts 02114

The State Agency is:

Massachusetts Department of Environmental Protection
Northeast Regional Office
Bureau of Resource Protection
205 Lowell Street
Wilmington, MA 01887

Signed and dated Discharge Monitoring Report Forms and toxicity test reports required by this permit shall also be submitted to the State at:

Massachusetts Department of Environmental Protection
Division of Watershed Management
Surface Water Discharge Permit Program
627 Main Street, 2nd Floor
Worcester, Massachusetts 01608

H. STATE PERMIT CONDITIONS

This Discharge Permit is issued jointly by the U. S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (DEP) under Federal and State law, respectively. As such, all the terms and conditions of this permit are hereby incorporated into and constitute a discharge permit issued by the Commissioner of the DEP pursuant to M.G.L. Chap.21, §43.

Each Agency shall have the independent right to enforce the terms and conditions of this Permit.

Any modification, suspension or revocation of this Permit shall be effective only with respect to the Agency taking such action, and shall not affect the validity or status of this Permit as issued by the other Agency, unless and until each Agency has concurred in writing with such modification, suspension or revocation. In the event any portion of this Permit is declared, invalid, illegal or otherwise issued in violation of State law such permit shall remain in full force and effect under Federal law as a NPDES Permit issued by the U.S. Environmental Protection Agency. In the event this Permit is declared invalid, illegal or otherwise issued in violation of Federal law, this Permit shall remain in full force and effect under State law as a Permit issued by the Commonwealth of Massachusetts.